

**STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINING, LAND AND WATER**

**GENERAL SURVEY INSTRUCTIONS**

**EASEMENTS**

Authority 11 AAC 53

These instructions define the survey and platting criteria unique to “**Asbuilt**” surveys of **minor projects** on state land for compliance with permit provisions. They provide the procedures for survey and graphical representation of the real property affected complete enough that a particular position can be physically located or reestablished on the ground. These instructions are applicable only to minor projects (hereinafter called “project”) constructed on state lands such as local access roads, trails, dikes, outfall lines, utilities etc. Major projects crossing state/non-state land ownership boundaries such as collector roads or power transmission lines will require Special Survey Instructions issued by the Division.

**1) GENERAL SURVEY STANDARDS**

All land survey activities affecting the legal real property rights of the State of Alaska, the adjoining landowner, or both, shall be made in accordance with applicable laws, regulations, rules of procedures, and acceptable professional practices, and shall be performed under the supervision of a land surveyor licensed to practice in the State of Alaska. All survey work must be accomplished with equipment and procedures sufficient to insure at least the degree of accuracy prescribed in these instructions. Entry upon public or private land for survey purposes shall be in accordance with AS 34.65.020.

Location, “Asbuilt”, surveys are metes and bounds type surveys and are ordinarily designated as Class IV Surveys under 11 AAC 53.110. Survey methods such as traverse, triangulation, trilateration for offshore operations, and differentially corrected Global Positioning System (DGPS) survey procedures, providing the minimum horizontal accuracy, are acceptable for easement centerline positioning; however, ties to real property boundaries where the project enters or leaves state land shall meet the requirements of Class III Surveys (1:5000).

- a) The “Asbuilt” or Post Construction survey is required to obtain the necessary dimensions for establishing a permanent record of the location of the project. **The “Asbuilt” drawing shall represent a post construction survey showing the project as constructed and shall not be a pre-construction plan of proposed improvement locations.** The survey shall be performed on the ground and the drawing shall:

- i) Identify the centerline of the easement adequately enough that it can be easily and unmistakably traced along with the land title in the public records system, and;
  - ii) Give all the survey data necessary to locate the centerline, corners and angle points on the ground.
- b) Basis of Bearings shall be a monumented boundary line of a survey of record or otherwise identified as being determined by a specific survey method such as GPS observed bearings. The Basis of Bearings and source used must be clearly noted on the asbuilt drawing. All Bearings shall be **True Bearings** as oriented to the Basis of Bearing. State Plane Grid Bearings will not be accepted without written consent of the Statewide Platting Supervisor.
- c) The asbuilt shall locate the project, and all associated facilities and their relationship to state land boundaries. **Where the project intersects a surveyed boundary line separating state and non-state ownership, ties to the nearest monumented corners defining the surveyed boundary line shall be made.** All such ties shall be made along a property line and the point of intersection stationed (See Attachment 2). Appropriate ties to property lines shall be shown on the drawing.
- d) If the project is located entirely within state land ownership boundaries and the start and/or end points are not tied to a monument of record, the latitude and longitude of the end points must be determined. The latitude and longitude at the beginning and end points of the easement will be shown on the drawing along with the appropriate survey datum (i.e., NAD-83). The coordinates will be constrained to the National Spatial Reference System (NSRS) and the Basis of Coordinates shall be noted on the plat.
- e) All private land boundaries, survey monuments and other significant improvements such as roads, trails, etc., which are within 300 feet of the centerline of the project but not intersected by the centerline, shall be located and tied at right angles to a centerline station number and the offset from the centerline noted (i.e., 35' left of station 60+50.0) (See Attachment 2).
- f) For the asbuilt drawing, angle points are not needed at every minor bend in the project but the entire improvement must lie within the specified width of the easement.
- g) Underwater utilities, pipeline, etc., must determine the line of MHW, or OHW and show distances and bearings from the MHW, or OHW line and along the underwater route.
- h) Show the wording Begin Project and End Project with an arrow to the beginning and the end of the project.

## 2) DRAFTING STANDARDS

- a) Format: The provided sample "Asbuilt" drawing is the format guide. The title block, vicinity map, legend, notes, surveyors seal, north arrow and graphics shall be shown substantially as indicated. Individual firm or company "Logo's", title blocks, certificates, notes, etc. are acceptable if in a reasonably similar format as the sample drawing. To protect against unauthorized alteration of the asbuilt drawing, the surveyor shall keep the original of the Asbuilt and submit a copy on stable quality paper or mylar with an original stamp and signature.
- b) The asbuilt drawing shall be submitted on good quality paper stock no larger than 8 1/2" x 14" (standard legal size), or, if the document is a "Record of Survey", one of the standard State, Division of Mining, Land & Water plat sizes. If large plat sheets are produced, the state may also request that reduced (8 1/2"x 14") copies be made. Reduced copies must be legible and capable of being copied or converted into legible form by a machine.
- c) The asbuilt drawing will become an exhibit to a recorded document; it shall meet the standards set forth by 11 AAC 06.040 (Prerequisites for Recording Documents).
- d) All line work and lettering on the asbuilt drawing must be in black drafting ink and must be accomplished with mechanical lettering equipment.
- e) Drawing scale shall be in multiples of one inch to 10 or 100 feet per inch. If space allows, details should be shown on the sheet to which they apply.
- f) A vicinity map is required. It shall be at whatever scale is necessary to show the entire project and clearly indicate section, township, range and geographic information. The vicinity map should be on the first or second sheet as scale and scope of the project dictates. If multiple sheets are required, the vicinity map shall also indicate the coverage by each sheet.
- g) If more than two sheets are required to clearly show the project and vicinity map, the legend, notes, Surveyors Certificate and any other required certificates shall appear on the **first sheet**. All other sheets shall show ADL number, scale, and sheet number/total number of sheets, location by section, township, range and the project to scale.
- h) Major topographic features and improvements such as streets, roads, highways, creeks, streams and rivers, which will aid in orientation shall be located and labeled on the asbuilt drawing.
- i) The asbuilt drawing shall show all data necessary to indicate the mathematical dimensions and relationships of the boundary represented, with angles given directly or by bearings shown to at least the minute and the lengths of lines in feet shown to a tenth of a foot. Curve information shall include the length and radius of each curve. Bearing and distance ties shall be shown to an officially recognized monument that has a known relationship to the rectangular survey system.

**Acreage shall be calculated and clearly show those portions of the permitted (easement) area which are on state lands. Where the permitted (easement) area crosses multiple parcels or sections of state land, separate acreage shall be shown. The acreage shall exclude any non-state land and shall be calculated to the hundredth of an acre.**

- j) All property boundaries of record shall be shown with a narrow solid line. All non-boundary lines such as tie lines and easement limits shall be dashed lines. Industry\_standard centerline symbols shall be used for all right-of-way and easement centerlines. **The line depicting the subject project centerline and the lines depicting the edges of the permitted (easement) area shall be bolder than any other line on the asbuilt drawing.**
- k) If centerline information is not continuous or not shown on non-state land, a tie shall be shown between the separated segments or a new basis of bearing established.
- l) For some large multiple sheet projects, each angle point on the centerline shall be clearly indicated and labeled with a P.I. number and stationing.
- m) Except for the ties and centerline information itself, all bearings and distances shall be labeled (R) for record, (M) for measured or (C) for computed.
- n) Section lines and section line easements shall be shown whether they are surveyed or protracted.
- o) Ownership of land traversed by the project shall be labeled (i.e., state, private, native corporation, etc.), along with the subdivision lot and block designations, U.S. Survey number, tract, ASLS, section, aliquot part, etc.
- p) If permit boundaries are shown (right-of-way and easement limits) they shall be shortened or extended to meet at all angle points and at boundaries between state and non-state land (See Attachment 2).
- q) The graphics of large sheet asbuilt drawings shall be oriented so that the north is as close as possible to the top of the sheet.

### 3) **IMPROVEMENTS WITHIN A PARCEL**

- a) Each object, structure or improvement placed within the permitted area shall be tied to at least one recovered record boundary. The tie should be at right angles to that boundary and if convenient, improvements should be referenced to the boundary they are closest to. Each tie to an improvement will consist of a distance along a property line from a monumented corner and a distance from the property line at right angles to the improvement.
- b) Any improvements of the permit, which exist outside the permitted area, shall be tied in the same manner as improvements within the permitted area if they are on state land.
- c) Encroachments, which are not a part of the permit, shall be tied in the same manner as all other improvements.
- d) Improvements such as electric lines, telephone lines and roads, which exit the permitted/easement area, shall be tied from the centerline of the improvement to a recovered monument on the boundary.
- e) Improvements shall be dimensioned and labeled.

### 4) **TYPICAL NOTES** (When applicable)

- a) The easement course values shown are True Mean Bearings and True Distances; reference monument bearings are True Bearings.
- b) All Bearings shown are True Bearings, as orientated to the Basis of Bearings and all distances have been reduced to horizontal field distances.
- c) (For GPS surveys) (Geographic / Grid) coordinates shown are NAD 1983, Alaska State Plane Zone\_\_\_\_.
- d) (For GPS surveys) \_\_\_\_\_Model\_\_\_\_\_GPS receivers were used for positioning.
- e) (For GPS surveys) \_\_\_\_\_Version\_\_\_\_\_software was used for data reduction.
- f) (For GPS surveys) All position values shown were constrained to the NGS network.
- g) All stationing shown is referenced to the back PI.
- h) The minimum bearing and distance closure is 1:5000.
- i) This Asbuilt represents a post construction survey of ADL \_\_\_\_\_. It is intended to depict that portion of the permit as it pertains to state land and is not to be presumed to plat or dedicate those portions pertaining to non-state lands. This asbuilt is not intended to be used to re-establish property boundaries and except as indicated, no encroachments exist within the permitted area.
- j) The easement width is \_\_\_\_' wide, \_\_\_\_' each side of centerline. Section \_\_\_, T \_\_ (N)(S), R \_\_ (E)(W), \_\_. M. contains \_\_\_\_ acres;. Section \_\_\_, T \_\_ (N)(S), R \_\_ (E)(W), \_\_. M. contains \_\_\_\_ acres. (Fill in width & acreage)
- k) The permit (easement) sidelines shall be extended or shortened to meet at the angle points and terminate at boundaries with non-state owned lands.
- l) (For Record of Surveys) This survey does not constitute a subdivision as defined by A.S. 40.15.900(5)(A).